



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

November 05, 2013

WELL WORK PERMIT

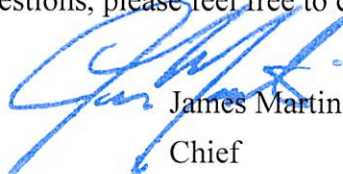
Rework-Secondary Recovery

This permit, API Well Number: 47-3304879, issued to HG ENERGY, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: HIRAM LYNCH 109
Farm Name: JUNKINS, EARL & BELVA
API Well Number: 47-3304879
Permit Type: Rework-Secondary Recovery
Date Issued: 11/05/2013

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code § 22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.

WW-3B
10/07



1) Date September 16, 2013
 2) Operator's Well No. Hiram Lynch No. 109
 3) API Well No. 47 - 033 - 4879
 State County Permit
 4) UIC Permit No. UIC2R03301AP

STATE OF WEST VIRGINIA
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

- 5) WELL TYPE: Liquid Injection X Gas Injection (not storage) _____ Waste Disposal _____
- 6) LOCATION: Elevation 1058' Watershed Wizardism Run
 District Tenmile 09 County Harrison 33 Quadrangle Wolf Summit 7.5' 6A2
- 7) WELL OPERATOR: HG Energy, LLC 494497948
5260 Dupont Road
Parkersburg, WV 26101
- 8) DESIGNATED AGENT: Mike Kirsch
5260 Dupont Road
Parkersburg, WV 26101
- 9) OIL & GAS INSPECTOR TO BE NOTIFIED:
 Name Sam Ward
 Address PO Box 2327
Buckhannon, WV 26201
- 10) DRILLING CONTRACTOR:
 Name To Be Determined Upon Permit Approval
 Address _____
- 11) PROPOSED WELL WORK: Drill _____ Drill Deeper _____ Redrill _____ Stimulate X
 Plug Off Old Formation _____ Perforate New Formation _____ Convert _____
 Other Physical Change in Well (specify) _____
- 12) Geological target formation Fifth Sand Depth 2,645 Ft. (Top) to 2,660 Ft. (Bottom)
- 13) Estimated depth of completed well (or actual depth of existing well) 2760' Ft.
- 14) Approximate water strata depths: Fresh 200 Ft. Salt 1,700 Ft.
- 15) Approximate coal seam depths: 315 Ft.
- 16) Is coal being mined in the area? Yes X No
- 17) Virgin reservoir pressure in target formation: 60 psig. Source Estimated
- 18) Estimated reservoir fracture pressure: 1200 psig.
- 19) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour 25 bbl/hr Bottom Hole Pressure 2400 psi
- 20) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES and other chemicals as needed to maintain water quality and improve oil recovery. Fresh water, produced water, bactericides
- 21) FILTERS (IF ANY) Cartridge filters and/or coal bed filters
- 22) SPECIFICATION FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL _____
- 23) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILLUP OR SACKS (CU. FT.)	PACKERS
	Size	Grade	Weight	New	Used	For Drilling	Left in Well		
Conductor									Kinds
Fresh Water	7"	LS	17#	X		386'	386'	Use Existing	Tension
Coal								Casing	Sizes
Intermediate									2.375" X 4.5"
Production	4 1/2"	ST&C	10.5#	X		2738'	2738'	Use Existing	Depths Set
Tubing	2 3/8"	J-55	4.6#	X		2545'	2545'	Casing - 150 sks	2445'
Liners									Perforations
									Top Bottom

- 24) APPLICANTS OPERATING RIGHTS were acquired from Hiram J. Lynch et ux.
 by Deed _____ Lease X Other Contract _____ Dated January 19, 1899 of record in the
Harrison County Clerk's Office in Lease Book 105 at Page 143

3704879 R2

08/02/2007

API # 47 33 4879

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

COPY

Well Operator's Report of Well Work

Farm name: JUNKINS, EARL & BELVA

Operator Well No.: HIRAM LYNCH 109

LOCATION: Elevation: 1,053'

Quadrangle: WOLF SUMMIT 7.5'

District: TEN MILE
Latitude: 2,525 Feet south of
Longitude: 9,150 Feet west of

County: HARRISON
39 Deg 17 Min 30 Sec.
80 Deg 27 Min 30 Sec.

Company: EAST RESOURCES, INC.
P.O. BOX 5519
VIENNA, WV 26105-5519

Agent: PHILIP S. ONDRUSEK

Inspector: TIM BENNETT

Permit Issued: 08/02/07

Well work Commenced: 01/15/08

Well work Completed: 04/10/08

Verbal plugging permission granted on:

Rotary ☒ Cable ☐ Rig

Total Depth (feet) 2810'

Fresh water depths (ft) NA

Salt water depths (ft) 1700

Is coal being mined in area (Y/N) N

Coal Depths (ft): NA

Casing/ tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
7"	386'	386'	95 sks
4 1/2"	2737.8'	2737.8'	150 sks

OPEN FLOW DATA

* WATERFLOOD INJECTOR

Producing formation Fifth Sand Pay zone depth (ft) 2645-2660
Gas: Initial open flow * MCF/d Oil: Initial open flow * Bbl/d
Final open flow * MCF/d Final open flow * Bbl/d
Time of open flow between initial and final tests Hours
Static rock pressure psig (surface pressure) after Hours
Second producing formation Pay zone depth (ft)
Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d
Final open flow MCF/d Final open flow Bbl/d
Time of open flow between initial and final tests Hours
Static rock pressure psig (surface pressure) after Hours

NOTE: ON BACK OF THIS FORM, PUT THE FOLLOWING: 1) DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2) THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: EAST RESOURCES, INC.

By:

Date:

Roger Welden
4/16/08

Treatment :

Treated perforations (2646'-2659') w/ 500 gals.15% HCl.

Well Log :

0	140	Sand and Shale
140	160	Sand
160	294	Shale
294	305	Sand
305	618	Shale
618	640	Sand
640	752	Shale
752	772	Sand
772	821	Shale
821	836	Sand
836	844	Shale
844	862	Sand
862	927	Shale
927	953	Sand
953	1022	Shale
1022	1096	Sand
1096	1114	Shale
1114	1126	Sand
1126	1286	Shale
1286	1312	Sand
1312	1324	Shale
1324	1342	Sand
1342	1596	Shale
1596	1612	Sand
1612	1628	Shale
1628	1644	Sand
1644	1678	Shale
1678	1750	Big Lime
1750	1810	Big Injun
1810	2232	Shale
2232	2250	Sand
2250	2338	Shale
2338	2347	Sand
2347	2384	Shale
2384	2436	Sand
2436	2446	Shale
2446	2480	Sand
2480	2645	Shale
2645	2660	Fifth Sand
2660	2810	Shale
2810		TD

3304879RS

WW-3A

10/07



1) Date: September 16, 2013
2) Operator's Well No. Hiram Lynch No. 109
3) API Well No. 47 033 - 4879
State County Permit
4) UIC Permit No. UIC2R03301AP

STATE OF WEST VIRGINIA
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

5) Surface Owner(s) To Be Served

(a) Name Earl & Belva Junkins ✓
Address RR 5, Box 1226
Salem, WV 26426

(b) Name
Address

(c) Name
Address

6) Inspector Sam Ward
Address PO Box 2327
Buckhannon, WV 26201
Telephone 389-7583

7 (a) Coal Operator

Name NA
Address

7 (b) Coal Owner(s) With Declaration Of Record

Name NA
Address

Name NA
Address

7(c) Coal Lessee With Declaration Of Record

Wolf Run Mining ✓
2708 Cranberry Square
Morgantown, WV 26505

TO THE PERSON(S) NAMED ABOVE: You should have received this form and the following documents:

- (1) The Application for a Liquid Injection or Waste Disposal Well Work Permit on Form WW-3(B), which sets out the parties involved in the drilling or other work;
- (2) The plat (surveyor's map) showing the well location on Form WW-6; and
- (3) The Construction and Reclamation Plan on Form WW-9 (unless the well work is only to plug a well), which sets out the plan for erosion and sediment control and for reclamation for the site and access road.

The date proposed for the first injection or waste disposal is NA

THE REASON YOU RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON FORM WW-3(A) DESIGNATED TO YOU. HOWEVER YOU ARE NOT REQUIRED TO TAKE ANY ACTION AT ALL.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a Well Work Permit with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to a well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, the plat, and the Construction and Reclamation Plan have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of the mailing or delivery to the Chief.

The person signing this document shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Well Operator HG Energy, LLC
Address 5260 Dupont Road
Parkersburg, WV 26101
By: Diane C. White
Its: Accountant

Signature Diane C White

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at: depprivacyofficer@wv.gov

WW-2B1

Well No. Hiram Lynch No. 109

West Virginia Department of Environmental Protection
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

If no water well or spring is located within 1000 feet, the Chief may require the operator to sample and analyze water from a water well or spring within 2000 feet of the proposed well site.

Be advised, you have the right to sample and analyze any water supply at your own expense.

The laboratory used by the operator to analyze the samples will be approved by the Chief. The operator named below has decided to use the following laboratory to analyze the water samples:

X Contractor Name Sturm Environmental Services
 Well operator's private laboratory

Well Operator HG Energy, LLC
Address 5260 Dupont Road
Parkersburg, WV 26101
Telephone 304-420-1119

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underlining which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site please indicate such.

No known Water Supply Sources are located within 2000' of proposed well.

RECEIVED
Office of Oil and Gas

OCT 07 2013

WV Department of
Environmental Protection

Operator's Well No. Hiram Lynch No. 109

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator HG Energy, LLC OP Code 494497948

Watershed Wizardism Run Quadrangle Wolf Summit 7.5'

Elevation 1058' County Harrison District Tenmile

Description of anticipated Pit Waste: Fluids encountered in stimulating existing well.

Do you anticipate more than 5,000 bbls of water to complete the proposed well work Yes No X

Will a synthetic liner be used in pit? Yes If so, what mil.? 20 Mil.

Proposed Disposal Method For Treated Pit Wastes:

X Land Application SDCW
10/2/2013

 Underground Injection (UIC Permit Number)

 Reuse (at API Number)

 Off Site Disposal (Supply Form WW-9 for disposal location)

 Other (Explain)

Drilling medium anticipated for this well? Air, fresh water, oil based, etc. NA

- If oilbased, what type? Synthetic, petroleum, etc.

Additives to be used? Water, soap, KCI

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc.

- If left in pit and plan to solidify, what medium will be used? Cement, lime, sawdust Native soil, cement, lime

- Landfill or offsite name/permit number?

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

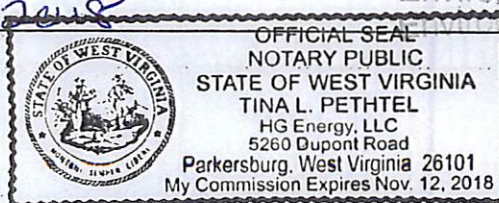
Company Official Signature	<i>Diane C White</i>
Company Official (Typed Name)	Diane C. White
Company Official Title	Accountant

Subscribed and sworn before me this 17 day of September 2013

Notary Public

My commission expires NOV. 17, 2018

Form WW-9..



W/W/9-Bark

Legend

Property Boundary

Road

Existing Fence

Planned Fence

Stream

Open Ditch

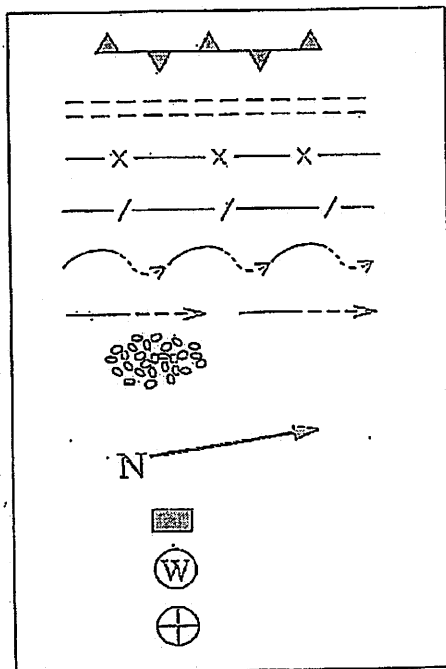
Rock

North

Buildings

Water Wells

Drill Site



Diversion

Spring

Wet Spot

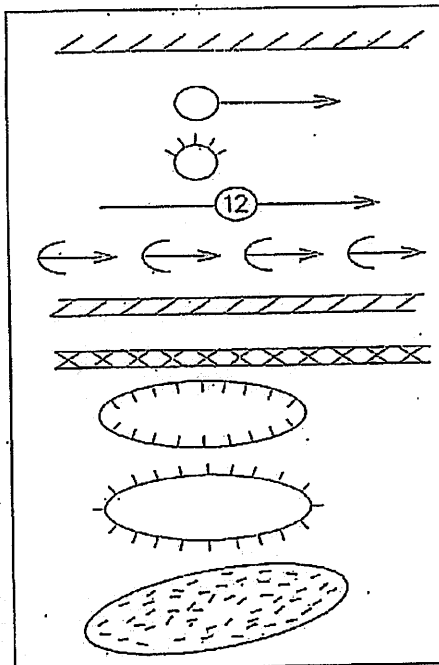
Drain Pipe

Waterway

Cross Drain

Filter Strip

Pit: Cut Walls

Pit: Compacted
Fill WallsArea of Land
Application
of Pit Waste

Area I

Proposed Revegetation Treatment: Acres Disturbed

Approx. 0.3 Ac.

Prevegetation pH

Area II

Approx. 0.2 Ac.

Lime 2 Tons/Acre or Correct to pH 6.5
 Fertilizer (10-20-20 or Equivalent) 500 Lbs./Acre (500 lbs. Minimum)
 Mulch Straw 2 Tons/Acre

SEED MIXTURESArea I (Location)

Seed Type	Lbs./Ac.
Tall Fescue	40
Ladino Clover	5

Area II (Road)

Seed Type	Lbs./Ac.
Tall Fescue	40
Ladino Clover	5

Attach:

Drawing(s) of road, location, pit and proposed area for land application
 Photocopied section of involved 7.5' topographic sheet.

Plan approved by:

Comments:

Title: Oil & Gas InspectorDate: 10/2/2013

Field Reviewed?

() Yes

(X) No

330487915



Reclamation Plan For:

Hiram Lynch No. 109

(47-033-4879)

Frac Permit 9/3/2013

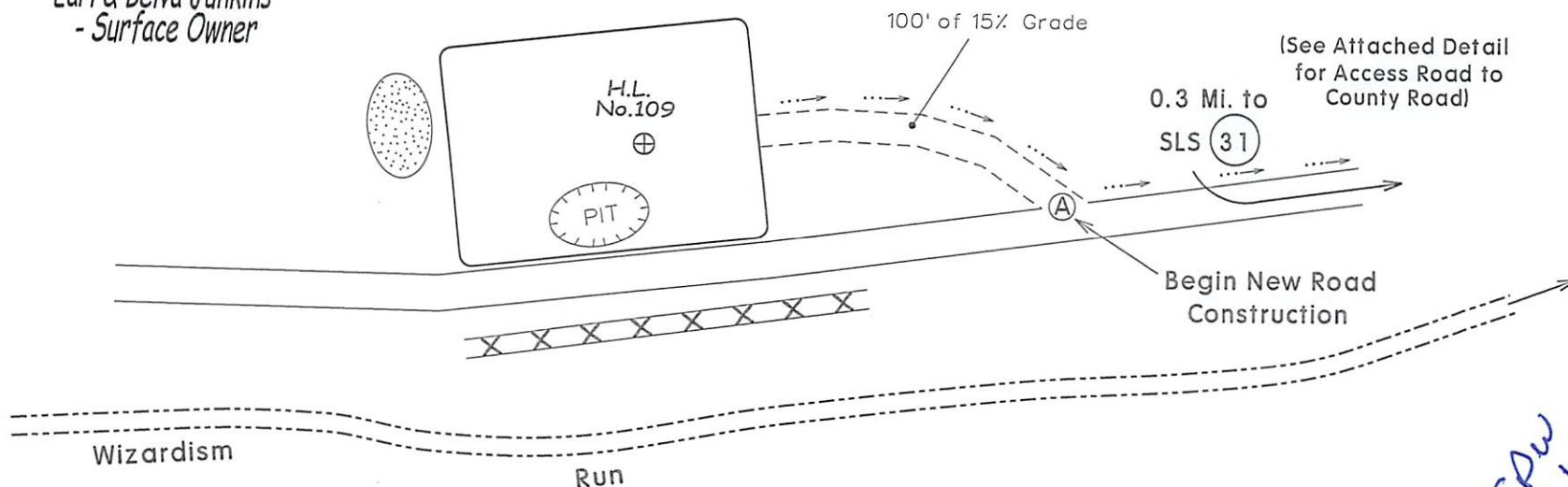
NOTE:
WELL LOCATION WAS BUILT AND RECLAIMED UNDER DRILLING PERMIT No. 47-033-4879. ONLY MINIMAL EARTHWORK WILL BE REQUIRED FOR PROPOSED WELL WORK. ALL DISTURBED AREAS WILL BE RE-VEGETATED AS PER THE SEEDING PLAN ON FORM WW-9.

REC'D Gas
Office of
003

WV Department of
Environmental Protection

Hiram Lynch Lease

Earl & Belva Jenkins
- Surface Owner



Note: Drawing not to Scale

NOTE
REFER TO THE WVDEP
EROSION AND SEDIMENT CONTROL
FIELD MANUAL VER. MAY 2012 FOR
BMPs CONTROLLING EROSION AND
SEDIMENT FROM SOIL-DISTURBING
OPERATIONS.

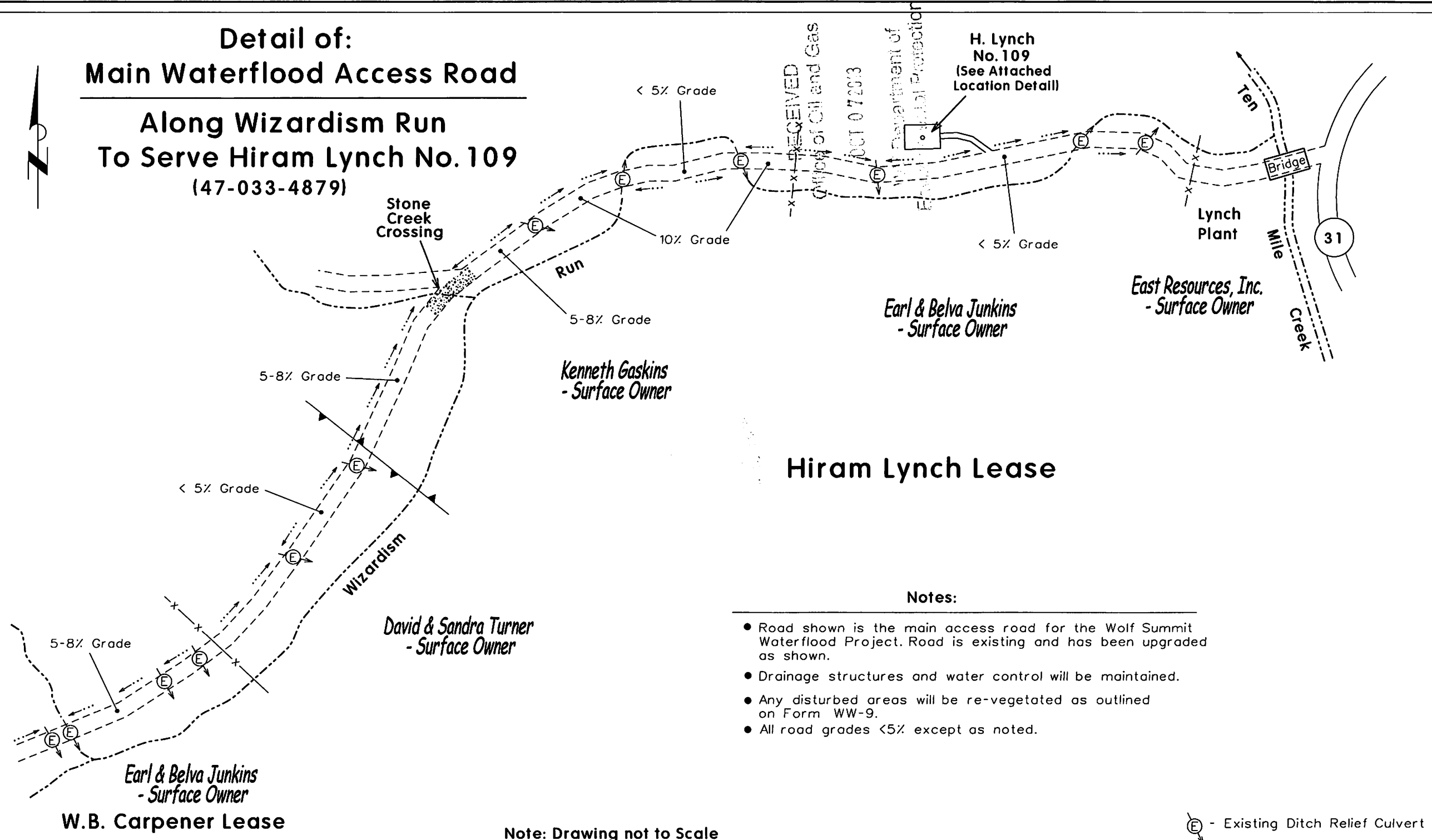
Notes:

- Requested permit is for drilling of new wells.
- Access road from Co. Rd. 31 to Pt. A is existing. Structures will be maintained.
- All disturbed areas will be re-vegetated as outlined on Form WW-9.
- Maintain sediment barriers and drainage structures.
- All road grades <5% except as noted.
- Location of drill pit may be changed based on as-built considerations.

3304879.23

Detail of: Main Waterflood Access Road

Along Wizardism Run To Serve Hiram Lynch No. 109 (47-033-4879)



Hiram Lynch Lease

Notes:

- Road shown is the main access road for the Wolf Summit Waterflood Project. Road is existing and has been upgraded as shown.
- Drainage structures and water control will be maintained.
- Any disturbed areas will be re-vegetated as outlined on Form WW-9.
- All road grades <5% except as noted.

E - Existing Ditch Relief Culvert

SUBJECT WELL
Hiram Lynch No.109
47-033-04879

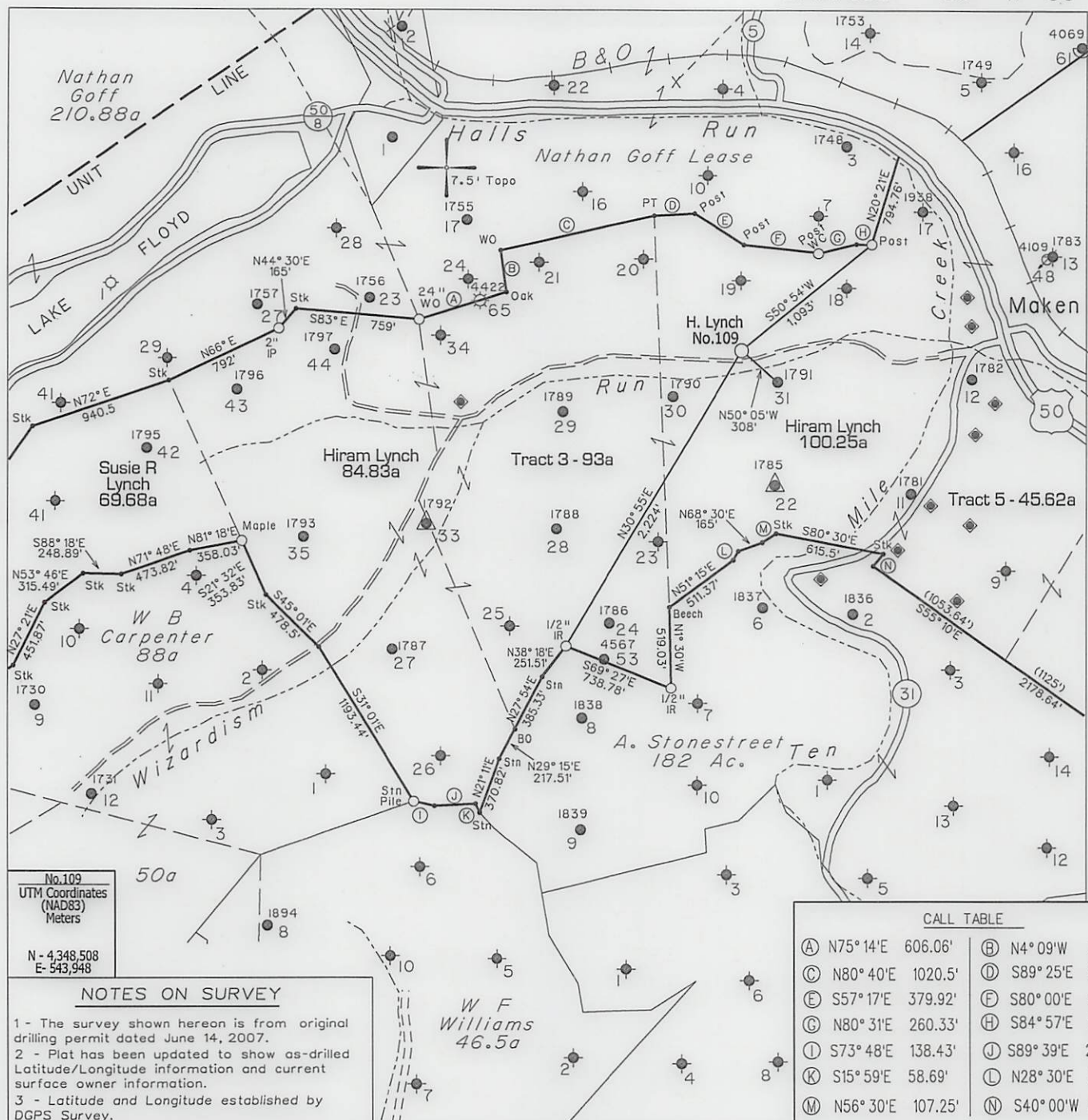


Section of
Wolf Summit 7.5' Quadrangle
and Salem 7.5' Quadrangle
SCALE 1"=1000'

Longitude - 80° 29' 26.2"

9,135'

LATITUDE 39° 17' 30"



(H) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

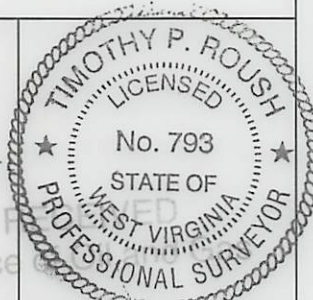
FILE NO. _____
MAP NO. N29 N S12 E 7 W
SCALE 1" = 1000'
MINIMUM DEGREE OF
ACCURACY Sub-Meter DGPS
PROVEN SOURCE OF
ELEVATION DGPS Survey

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF MINES.

(SIGNED) _____

TIMOTHY P. ROUSH

PS 793



WEST VIRGINIA

Division of Environmental Protection
Office of Oil and Gas
601 57th Street
Charleston, West Virginia 25304



DATE April 10, 2012
FARM Hiram Lynch No.109
API WELL NO. 47-033-04879 RS

WELL TYPE: OIL ___ GAS ___ LIQUID INJECTION X WASTE DISPOSAL ___ CORE ___
(IF "GAS") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW ___

LOCATION: ELEVATION 1,058' WATERSHED Wizardism Run
DISTRICT Ten Mile COUNTY Harrison
QUADRANGLE Wolf Summit 7.5'

SURFACE OWNER Earl & Belva Junkins ACREAGE 89.94 Ac.

OIL & GAS ROYALTY OWNER Anne Farr et al. LEASE ACREAGE 568 Ac.

LEASE NO. 31378-50

PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR
STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW
FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___

TARGET FORMATION Fifth Sand ESTIMATED DEPTH 2,760'

WELL OPERATOR HG Energy LLC.

DESIGNATED AGENT

Mike Kirsch

ADDRESS

5260 DuPont Road
Parkersburg, WV 26101

ADDRESS

5260 DuPont Road
Parkersburg, WV 26101



HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

3304-879 RS

✓ # 2385
\$650.00

September 16, 2013

Mr. Jeff McLaughlin
Division of Oil & Gas
601 57th Street
Charleston, West Virginia 25304

RE: Hiram Lynch No. 109 (47-033-4879)
Tenmile District, Harrison County
West Virginia

Dear Mr. McLaughlin:

Enclosed are Forms WW-3A, WW-3B, WW-9, Mylar of plat, reclamation plan, topo map and copies of the certified mailing receipts for a permit to stimulate the above-captioned liquid injection well. Also enclosed is our check in the amount of \$650.00 to cover the associated permit fees.

Very truly yours,

Diane C. White

Diane C. White

Enclosures

cc: Earl & Belva Junkins - Certified
Wolf Run Mining - Certified
Sam Ward - Inspector

RECEIVED
Office of Oil and Gas

OCT 07 2013

WV Department of
Environmental Protection